

Date: Tuesday, 4/18/2006 10:03:53 AM
User: Kim Johnston

Process Sheet

21

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: HIGH AFT X-TUBE 412		
Job Number	: 26675		Part Number	: D412664203		
Estimate Number	: 10559		Drawing Number	: D412-664-243 REV B		
P.O. Number	: N/A		Project Number	: N/A		
This Issue	: 4/18/2006	S.O. No. : N/A	Drawing Revision	: B		
Prsht Rev.	: NC		Material	: N/A		
First Issue	: N/A		Due Date	: 5/26/2006 Qty: 1 Um: Each		
Previous Run	: 26674					
Written By	: <u>See comment below</u>					
Checked & Approved By	: <u>KJ 06.04.18</u>					
Comment	: Est Rev:E 04.02.16 Reformat; Added D3189-1 K/DS Est Rev:F 06-03-29 Remove Coments on Pick List JLM					

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :		
1.0	DC	DOCUMENT CONTROL		
Comment: DOCUMENT CONTROL Photocopy bluefile and create labels as per PPP D412-664-203 CHG 003 <u>KJ 06/05/09</u>				
2.0	D6009129	Crosstube Material		
Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s) Pick: Qty Part number Description Batch 1 D6009-129 Crosstube <u>B25942</u> Check OD = 3.500"; ID = 2.250" <u>M8 06/05/09</u>				
3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE		
Comment: MORI SEIKI CNC LATHE LARGE 1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA166 <u>M8 06/05/09</u> 2-Turn first side as per Folio FA166 <u>M8 06/05/09</u> 3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243. <u>M8 06/05/09</u>				
4.0	QC1	INSPECT ALL DIM TO DIM SHEET		
Comment: INSPECT ALL DIM TO DIM SHEET <u>M8 06/05/10</u>				

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 4/18/2006 10:03:54 AM
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 26675

Part Number: D412664203

Job Number:



Seq. #: Machine Or Operation:

Description :

5.0 MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA166

MS 06/05/10 1

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243.

MS 06/05/10 1

3-Polish entire outside surface of crosstube

MS 06/05/10 1

4- Remove sand and plugs

MS 06/05/10 1

5-Scribe part # and batch # using vibrating stylus as per Dwg D412-664-243

MS 06/05/10 1

6.0 QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

MS 06/05/10 1

7.0 QC8

SECOND CHECK



Comment: SECOND CHECK

MS 06.05.10 1

8.0 HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

AT 06 -05 - 10

9.0 QC3/5

INSPECT WORKWING WALK



Comment: Inspect work & Chemical conversion Coat

DP 06-5-10

10.0 BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and Folio FT010

DP 06-5-11

11.0 QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

DP 06-5-11
(B)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 4/18/2006 10:03:54 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 26675

Part Number: D412664203

Job Number:



Seq. #: Machine Or Operation:

Description :

12.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551 *Pr 06-05-12 ①*

2-Ream hole to finish size in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551. Check *Pr 06-05-13 ①* dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243 *Pr 06-05-15 ①*

13.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

Pr 06-05-15 ①

PTC

14.0 OUTSIDE SERVICE OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 0380R

Issue P/O: 1260 LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

C:\06\05\16 ①

15.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order

Re/5/18 ①

16.0 QC6 DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D412-664-203

Jab05-23 ①

17.0 SPRAY PAINTING SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

FC 06 05 24 ①
11 06 05 25 ①

2-Paint outside crosstube with White Imron as per QSI 005 4.2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06.05.16	B.1	Add QC 5 to inspect work work inspected. <i>J. d.05.16 ①</i> <i>permanent change</i>	<i>JB</i>	06.05.16	1	<i>JB</i> 06.05.16	<i>J</i> 06.05.16

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 4/18/2006 10:03:54 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 26675

Part Number: D412664203

Job Number:



Seq. #: Machine Or Operation:

Description :

18.0 QC14 Inspect Spray Paint



Job 05-25 ①

Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

19.0 D2856600 Abrasion Strip



Comment: Qty.: 1.7640 f(s)/Unit Total : 1.7640 f(s)

Pick:

Qty Part number Description Batch
2 D2856-600(Cut to 10.090") Abrasion Strip B24328 DP06-5-29

20.0 D2856600 Abrasion Strip



Comment: Qty.: 1.0080 f(s)/Unit Total : 1.0080 f(s)

Pick:

Qty Part number Description Batch
1 D2856-600(Cut to 10.870") Abrasion Strip B24328 DP06-5-29

21.0 D28961 Support



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch
1 D2896-1 Support B21240 DP06-5-29

22.0 D31891 Chafing Shield



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch
2 D3189-1 Chafing Shield B25658 DP06-5-29

23.0 MS2192028 Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch
4 MS21920-28 Clamp 4100429 DP06-5-29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 4/18/2006 10:03:54 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 26675

Part Number: D412664203

Job Number:



Seq. #: Machine Or Operation:

Description :

24.0 MS2192030 clamp(per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 MS21920-30 Clamp M100154 DP06-5-29

25.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Assemble as per Dwg D412-664-203

DP06-5-29

26.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

CRE 06-05-29 10

27.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

28.0 AN640A Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: M19099 ✓

29.0 AN641A Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M19633 ✓

30.0 AN960JD616 Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Washer

Batch: M100191 ✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA:  Date: 06/05/09
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 4/18/2006 10:03:54 AM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 26675

Part Number: D412664203

Job Number:



Seq. #:	Machine Or Operation:	Description :
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31.0	MS21042L6	Nut
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Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Nut

Batch: M19099 ✓

4/18/29 ①

32.0	QC4	INSPECT 100% KITS FOR COMPLETENESS
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Comment: INSPECT 100% KITS FOR COMPLETENESS

4/18/29 ①

33.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D412-664-203

Location: PG5

PPP Rev: 0

4/18/29 ①

34.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Inspection Level 21

4/18/29 ①

Job Completion



4/18/29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	26675
Description: Crosstube Assembly (412 High Aft)	Part Number:	D412-664-243
Inspection Dwg: D412-664-243 Rev: B		Page 1 of 1

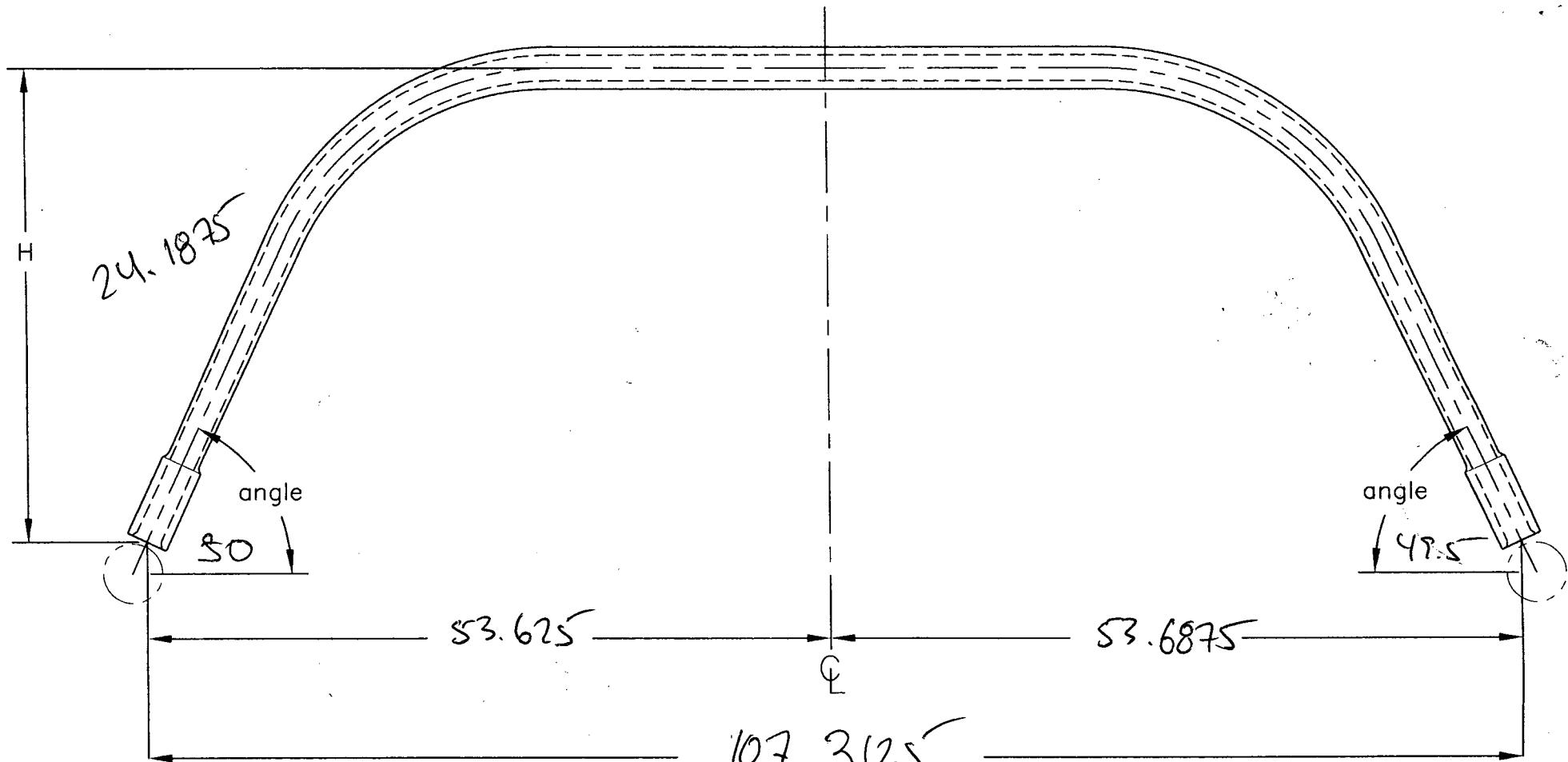
FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.684	+0.005/-0.000	2.688	✓		
	2.748	+0.005/-0.000	2.752	✓		
	2.884	+0.005/-0.000	2.888	✓		
	3.019	+0.005/-0.000	3.023	✓		
	3.163	+0.005/-0.000	3.168	✓		
	3.308	+0.005/-0.000	3.313			
	3.429	+0.005/-0.000	3.433			
	2.990	+0.005/-0.000	2.994	✓		
	2.618	+0.005/-0.000	2.621	✓		
	0.200	+/-0.010	.200	✓		
	R0.063	+/-0.010	.063	✓		
	R0.500	+/-0.010	.500	✓		
	4.971	+/-0.001	4.971	✓		
SIDE B	2.684	+0.005/-0.000	2.688	✓		
	2.748	+0.005/-0.000	2.752	✓		
	2.884	+0.005/-0.000	2.888	✓		
	3.019	+0.005/-0.000	3.023	✓		
	3.163	+0.005/-0.000	3.168	✓		
	3.308	+0.005/-0.000	3.313	✓		
	3.429	+0.005/-0.000	3.433	✓		
	2.990	+0.005/-0.000	2.995			
	2.618	+0.005/-0.000	2.620	✓		
	0.200	+/-0.010	.200	✓		
	R0.063	+/-0.010	.063	✓		
	R0.500	+/-0.010	.500	✓		
	4.971	+/-0.001	4.971	✓		
	124.09	+/-0.020	124.10	✓		

Measured by:	M8	Audited by:	R	Prototype Approval:	N/A
Date:	06/05/09	Date:	06.05.10	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.06.16	New Issue (P/O D412-664-203)	KJ/JLM	
B	06.03.09	Dwg Rev updated	KJ/JLM	



DATE: 06.05.11

DESCRIPTION: 412-664-203

BATCH NO: 26675

DRAWING: 412-664-243

$H: 24.37 \{ +.06$

1/2 SPAN: 53.72

TOTAL SPAN: 107.44

ANGLE: 50°

BB
06.05.11



DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED PH	APPROVED PH	DRAWING NO. D412-664-243	REV. B SHEET 1 OF 3
DATE 05.02.04	TITLE CROSSTUBE ASSEMBLY (412 HI AFT)		SCALE NTS
A	01.10.17	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED
05-06-09 ~~PH~~

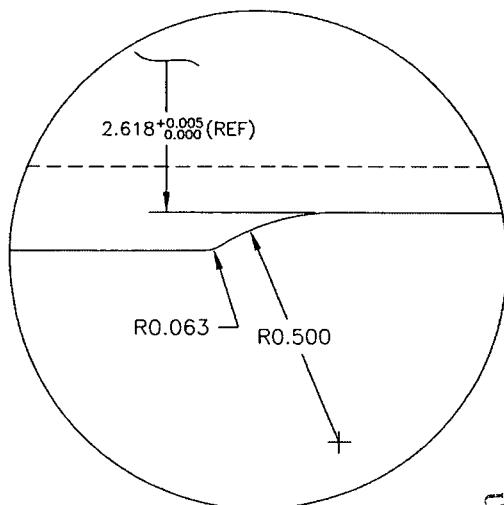
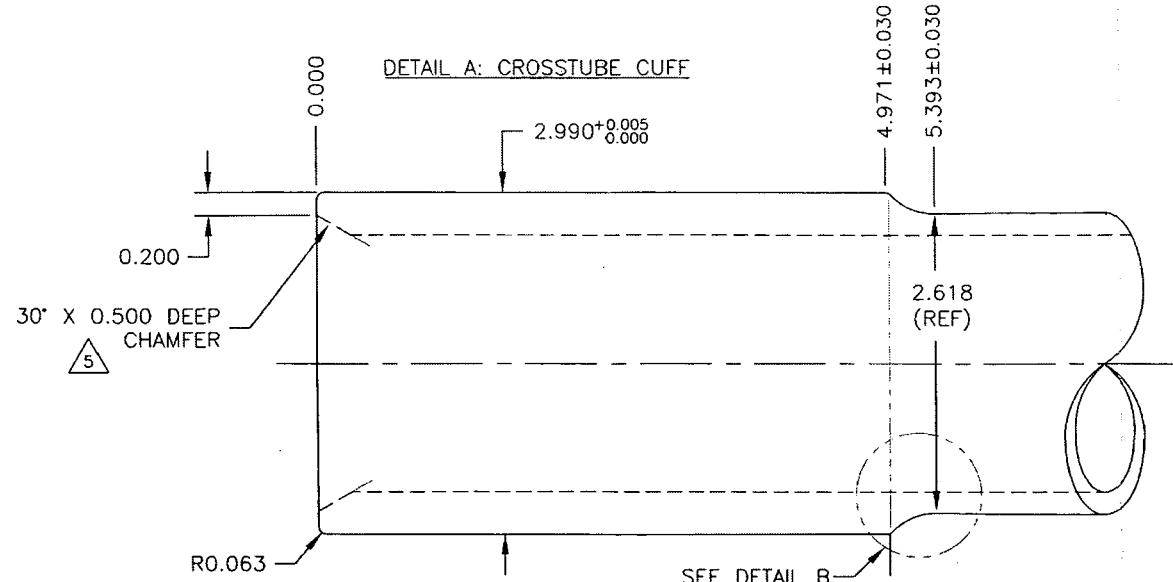
Qty	Part Number	Description
X	D412-664-243	CROSSTUBE ASSEMBLY (412 HIGH AFT)
1	D6009-129	CROSSTUBE
1	D2896-1	SUPPORT
2	D2856-600-1009	ABRASION STRIP
1	D2856-600-1087	ABRASION STRIP
4	MS21920-28	CLAMP
2	MS21920-30	CLAMP
2	D3189-1	CHAFING SHIELD

GENERAL NOTES:

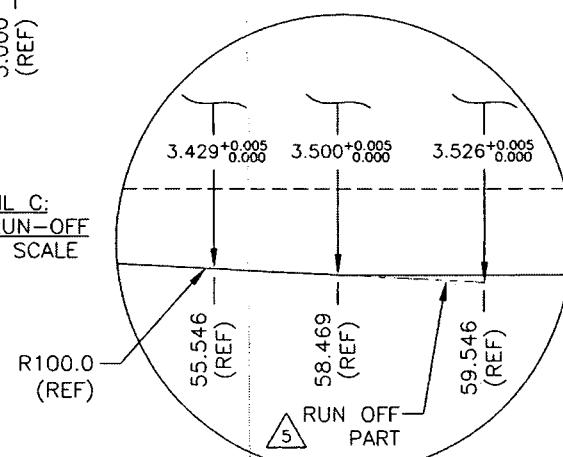
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 124.09 ± 0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-600-1009 AND D2856-600-1087 ABRASION STRIPS WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2896-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 26675

RELEASED
05.06.09



DETAIL C:
TAPER RUN-OFF
NOT TO SCALE



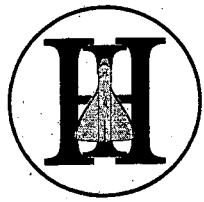
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DART AEROSPACE LTD.

DESIGN PH DRAWN BY PH
CHECKED APPROVED
DATE 05.02.04

DART
DRAWING NO. D412-664-243
SHEET 3 OF 3

DART AEROSPACE LTD.
MONTREAL, QUEBEC, CANADA
REV. B
TITLE CROSSTUBE ASSEMBLY (412 HI AFT)
SCALE 1:1

NO
WORK ORDER
20075
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
ENGINEERING
RETURN TO
SHOP COPY



HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 34150

A.M.O. Number: 46/90

NON-DESTRUCTIVE TESTING REPORT

AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

Carry out FPI of (5) cross tube (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (1) P/N D212-664-101 S/N B26238
Qty (1) P/N D058-676-201 S/N B19626
Qty (2) P/N D412-664-203 S/N's B26675 & B25652
Qty (1) P/N D206-667-203 S/N B25608

 RADIOGRAPHY ULTRASONIC PENETRANT MAGNETIC PARTICLE EDDY CURRENT

INSPECTION REPORT

Fluorescent penetrant inspection was performed in accordance with the above requirements on (5) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)
Ardrox 970P25E Batch #04B503.

(5) cross tubes PASSED inspection.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH
THE APPLICABLE STANDARDS OF AIRWORTHINESS

INSPECTED BY: _____

DATE May 17, 2006

INSPECTION STAMP(S) Not Required

CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER 00001260

ADDRESS:

CONTACT NAME:

LABOUR	@	\$
MATERIALS	@	
TRAVEL EXPENSES	@	GST
HOTEL EXPENSES	@	PST

INVOICE NO. _____

TOTAL \$ _____



HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3
Tél: (514) 636-1000 • Fax: (514) 636-0031

W.O. № 34150

A.M.O. Number: 46/90

NON-DESTRUCTIVE TESTING REPORT

TESTING COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

Carry out FPI of (5) cross tube (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (1) P/N D212-664-101 S/N B26238
Qty (1) P/N D058-676-201 S/N B19626
Qty (2) P/N D412-664-203 S/N's B26675 & B25652
Qty (!) P/N D206-667-203 S/N B25608

RADIOGRAPHY

ULTRASONIC

PENETRANT

MAGNETIC PARTICLE

EDDY CURRENT

INSPECTION RESULTS

Fluorescent penetrant inspection was performed in accordance with the above requirements on (5) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)
Ardrox 970P25E Batch #04B503.

(5) cross tubes PASSED inspection.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH
THE APPLICABLE STANDARDS OF AIRWORTHINESS

DATE: May 17, 2006

INSPECTED BY:


S. FLETCHER

INSPECTION
STAMP(S)

Not Required

CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER: 00001260

ADDRESS:

CONTACT NAME:

LABOUR	@	\$
MATERIALS	@	
TRAVEL EXPENSES	@	GST
HOTEL EXPENSES	@	PST

INVOICE NO.

TOTAL \$



ALUnna

Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd.

Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada**Produkt:** Rohre nahtlos gepresst

Product / Produit: Tubes seamless extruded

Spezifikation:

Specification:

Werkstoff:

Alloy/Alliage:

Abmessung

Size / Dimension

Kennzeichnung

Marking/Marquage:

Lieferung

Delivered Material / Matérial délivré:

Dart Aerospace Ltd.

Zeugnisnummer: 364/06

Cert No. / No. du certificat:

Bestellnummer: PO 00000670

Order No. / No. de commande

Auftrag: 17896/1

Our Reference/Notre Reference:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Rohre nahtlos gepresst

Tubes seamless extruded

-; AMS - QQ - A - 200/11E; -; -

7075

Zustand: T 6511

Temper/Etat

3,500 INCH x 2,250 INCH x 0,625 INCH x 129,000 INCH

D6009-129 3.500 X 0.625 X 129

ALUnna-Cert No.364/06-7075-T6511-Cast No.80117-QQA-200/11E-3.500" OD X 0.625"Wall-Heat No.421/04-

Lot17896/1-1-P.O.00000670

pcs. lbs

22 1629

1. Chemische Analyse

Chemical Analysis / analyse chimique

Charge/ Cast No	SI min. max.	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
							5,1						
80117	0,40	0,50	1,2	0,30	2,1	0,18	6,1	0,20					
							0,87	0,04	<0,05				
	0,07	0,15	1,53	0,04	2,48	0,19							

Elements without indication < 0,01 %

2. M

nische Eigenschaften

Mechani

Properties / Valeurs Mécaniques

An Rt	tensile (Rm) ksi in. max.	yield (Rp0,2) ksi 66,0	elongation 2" %	elongation	Hardness	Heat No.
				A	%	
1	86,565	79,315	11,0	11,0	176	421/04 - 22 pcs.
2	87,145	80,185	10,0	10,0	173	
3	86,855	79,460	10,5	10,5	173	
4	86,855	79,895	12,0	12,0	178	

Ergebnis der
Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

Krauss

Form: rprocess

Kinglist ALUnna AG

Customer PO	P.O.00000670
Unna ref. no.	17896/1
Date:	04.26.06

We hereby declare that the wooden packing material are totally free from bark and apparently

ree from live plant pests

Boxmarking:

Dart Aerospace P.O.00000670 Box No.
D6009-129 Made in Germany
Dest.Hawkesbury Ont Canada